



June 16, 2014

Sent via Electronic Mail

Ms. Charlene Falco
Illinois Environmental Protection Agency
Bureau of Land, #24
Federal Site Remediation Section
Federal Facilities Unit
1021 North Grand Avenue East
Springfield, IL 62702

Re: MONTHLY PROGRESS REPORT MAY 2014
INTERIM CONSENT ORDER ACTIVITIES
DEPUE SITE, DEPUE, ILLINOIS

PEOPLE OF THE STATE OF ILLINOIS VS. HORSEHEAD IND., INC., ET AL.
CASE NUMBER 95 CH 18
SITE ID 0110300003 - BUREAU

Dear Ms. Falco:

This progress report is being submitted by ENVIRON International Corporation (ENVIRON), on behalf of the DePue Group. The attached revised report addresses the Interim Consent Order (ICO) activities conducted from May 1 through May 31, 2014 at the DePue Site. The report also indicates planned activities for the next reporting period.

This report complies with the requirements of the ICO, Section XVI, paragraph C, and Attachment 1, paragraph 12.

If you have any questions, please call.

Sincerely,

ENVIRON International Corporation

Scott Hayter
Principal Consultant

Attachment

**MONTHLY PROGRESS REPORT
FOR
MAY 2014**

**INTERIM CONSENT ORDER ACTIVITIES
DEPUE SITE
DEPUE, ILLINOIS**

Prepared For:

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- 1 copy – Eric Bryant, Village of DePue (electronic copy only)
- 1 copy – Tony Wlodarski, AMEC (electronic copy only)

I OPERABLE UNIT 1: SOUTH DITCH SEDIMENT

- Completed
- The DePue Group has started coordinating with the Illinois Environmental Protection Agency (IEPA) on issues regarding the five-year review.

II. OPERABLE UNIT 2: PHOSPHOGYPSUM STACK**Summary of Work Performed during the Reporting Period:**

- Routine maintenance and monitoring activities continued at the phosphogypsum stack. These activities included pumping, observing, and recording flow and water levels, maintaining storm water diversion systems (catch basins, dams, and discharge piping), measuring flow and collecting samples at the Outfall 002 when applicable, inspecting, monitoring and maintaining groundwater collection and pumping systems, inspecting and maintaining cover integrity and supporting and maintaining the Health and Safety program.
- The center pivot irrigation system was restarted for the summer season on May 27, 2014.
- As of June 2, 2014, 139.8-million gallons of water had been discharged through the treatment wetland. Flow rates and discharge are logged daily, Monday through Friday and reported monthly to the IEPA.
- The treatment wetland sprinkler system was shut down for the winter season on November 22, 2013.
- Three samples were collected from Outfall 002 during May 2014.
- The Annual metals sample for Outfall 002 was taken on May 12, 2014.
- Surface water samples were collected at select locations in DePue Lake and analyzed for Operable Unit 2 (OU2) constituents in conjunction with field measurements collected for supplemental OU3 investigations on May 13, 2014 to supplement previously collected data.
- Field measurements were collected at select seep/spring locations in the OU2 Study Area, north of DePue Lake, in conjunction with field measurements collected for supplemental OU3 investigations on May 14, 2014. Quarterly Sampling of Duck pond, Clear water pond, upper and lower swales were collected on May 19, 2014.
- Quarterly water levels were collected on May 20, 2014 and May 21, 2014.
- Submitted the "Report of Groundwater Flow and Transport Modeling" on May 15, 2014.
- Continued preparation of a Phase I/II/III Investigation Report Addendum for the Intermediate Sand.

Summary of Work Planned for the Next Reporting Period:

- Continue routine maintenance and monitoring activities within the Phosphogypsum Stack system.
- Continue preparation of the Phase I/II/III Investigation Report Addendum for the Intermediate Sand.

Problems Encountered/Resolved:

- None

Revisions to Scopes of Work and Schedules:

- The DePue Group submitted a final revised schedule for OU2 on May 22, 2014. Letter of approval to the revised schedule was received on May 29, 2014.

Changes to Key Personnel, Consultants, Contractors, or Subcontractors:

- None

III. OPERABLE UNIT 3: PLANT SITE**Summary of Work Performed during the Reporting Period:**

- Risk Assessment
 - The DePue Group submitted a revised OU3 risk assessment approach document in response to IEPA's February 7, 2014 comments on May 1, 2014.
 - The DePue Group received IEPA's comments on the revised OU3 risk assessment approach document on May 21, 2014.
- Supplemental OU3 Investigations
 - Field measurements for temperature, dissolved oxygen, oxidation-reduction potential (ORP), specific conductance, pH, and turbidity were collected at select locations in DePue Lake and at seeps along the north shore of DePue Lake to aid supplemental OU3 investigations on May 13 and 14, 2014.
- Interim Water Treatment Plant (IWTP) Operations
 - The IWTP treated 1,170,211 gallons of water during May 2014. The influent and effluent data are included in Attachment 2:
 - Approximately 10,540 pounds of zinc were removed.
 - Approximately 500 pounds of manganese were removed.
 - Approximately 620 pounds of copper were removed.
 - The following activities were completed at the IWTP:
 - Routine operation and maintenance.
- Site Operations
 - The most recent OU3 site fence inspections were completed on May 29 and 30, 2014. There were no issues noted; all fencing was found secure and "No Trespassing" signs were intact. No repairs were necessary.

Summary of Work Planned for the Next Reporting Period:

- Risk Assessment
 - The DePue Group will continue to work with IEPA to finalize the OU3 risk assessment approach in response to IEPA's May 21, 2014 comment letter.
- Interim Water Treatment Plant
 - The DePue Group will continue routine operation and maintenance at the IWTP.

Problems Encountered/Resolved:

- None

Revisions to Scopes of Work and Schedules:

- The DePue Group is working on a revised schedule for OU3 in coordination with IEPA.

Changes to Key Personnel, Consultants, Contractors, or Subcontractors:

- None

IV. OPERABLE UNIT 4: OFF-SITE SOIL**Summary of Work Performed during the Reporting Period:**

- Off-Site Soil Design Study
 - The DePue Group submitted a report documenting the results of the Pilot Study on May 9, 2014.
 - The DePue Group and IEPA revisited eight pilot study properties where snow cover during the completion of the Pilot Study prevented evaluation of potential bare areas on May 14, 2014. Soil samples from bare areas identified at two of the eight properties were obtained on May 28, 2014.

Summary of Work Planned for the Next Reporting Period:

- Off-Site Soil Design/Pilot Study
 - The DePue Group will continue to work with IEPA towards completion of the Design/Pilot Study.

Problems Encountered/Resolved:

- None

Revisions to Scopes of Work and Schedules:

- The DePue Group submitted a final revised schedule for OU4 on May 22, 2014. Letter of approval to the revised schedule was received on May 29, 2014.

Changes to Key Personnel, Consultants, Contractors, or Subcontractors:

- None

V. OPERABLE UNIT 5: DEPUE LAKE AND FLOODPLAIN**Summary of Work Performed during the Reporting Period:**

- DePue Lake Risk Assessments
 - The DePue Group is evaluating the April 14, 2014 IEPA response to the December 23, 2013 Sediment Preliminary Remediation Goal (PRG) Technical Memorandum.
 - The DePue Group is waiting for confirmation from IEPA on the approach for finalizing the OU5 Human Health Risk Assessment (HHRA).

Summary of Work Planned for the Next Reporting Period:

- DePue Lake Risk Assessments
 - The DePue Group will continue to work with IEPA toward finalizing the OU5 risk assessments.

Problems Encountered/Resolved:

- None

Revisions to Scopes of Work and Schedules:

- Additional requirements necessary to address OU1 (South Ditch Sediments), if any, will be completed as part of the scope of work for OU5 (DePue Lake and Floodplain).

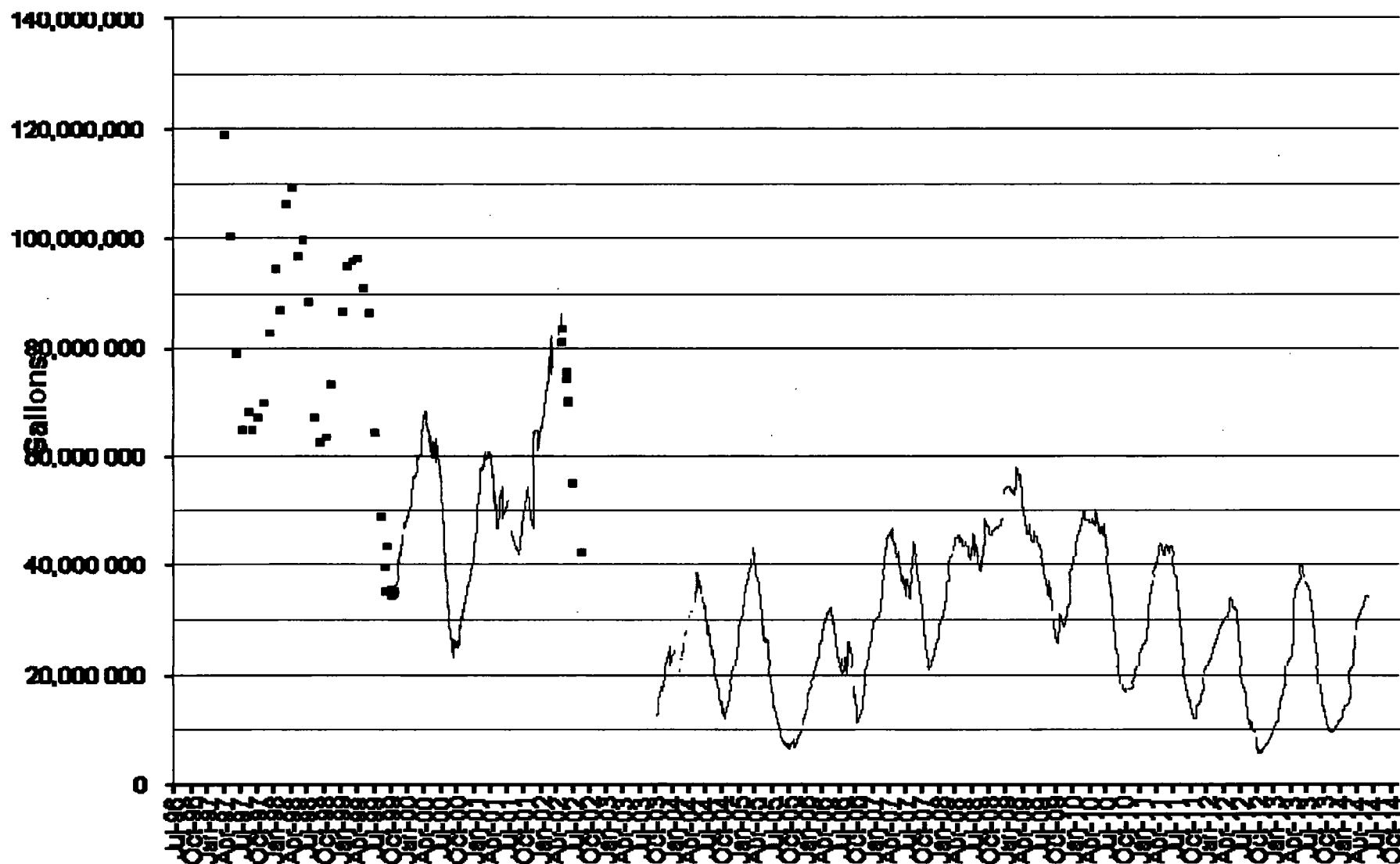
Changes to Key Personnel, Consultants, Contractors, or Subcontractors:

- None

Attachment 1

Gypstack

Surface-Water Volumes within the Phosphogypsum Stack System

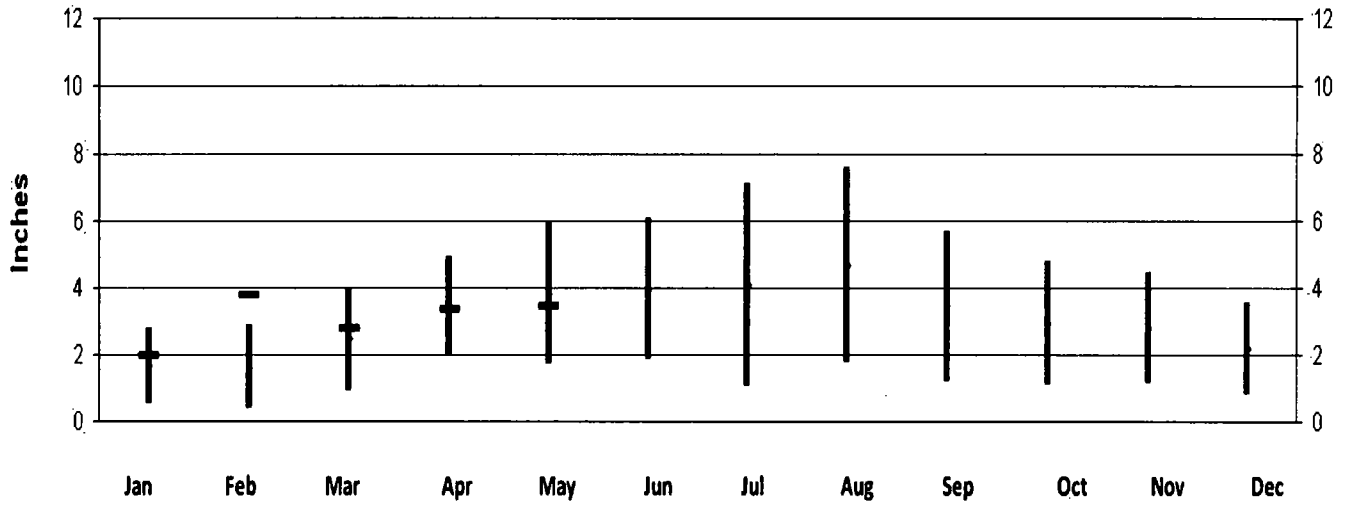


1978 Through 2014 DePue Site Precipitation

2014 Monthly Averages
(± 1 Standard Deviation)

Monthly Average (1978 - 2014)

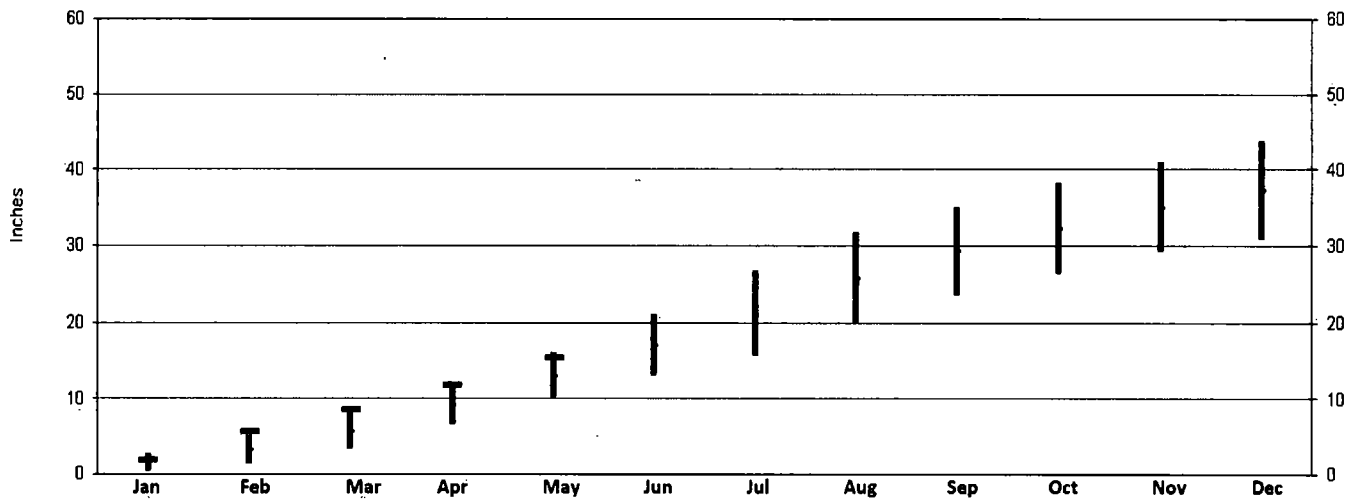
- 2014 Monthly total



2014 Average Monthly Cumulative Totals
(± 1 Standard Deviation)

Average Monthly Cumulative Total (1978-2014)

- 2014 Monthly Cumulative Total



Analytical Results for Samples Collected at the 002 Outfall (mg/L)

Sample Collection Date	pH (S.U.)	Total Dissolved Solids (mg/L)	Total Phosphorus (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Ammonia- Nitrogen (mg/L)	Unionized Ammonia (mg/L)
1/13/14	6.18	295	0.683	0.430	94.2	<0.0600	<0.00100
3/12/14	7.65	226	0.154	0.365	54.8	0.708	0.00319
3/24/14	7.62	346	1.03	0.431	102	0.243	0.00158
4/03/14	7.73	332	0.770	0.444	76.2	0.220	0.00199
4/10/14	8.26	461	0.567	0.614	128	0.142	0.00574
4/17/14	8.74	478	0.631	0.589	173	0.120	0.0168
5/05/14	8.86	493	1.01	0.444	159	0.186	0.0477
5/12/14	8.61	513	0.596	0.626	139	0.130	0.0285
5/19/14	8.72	474	0.341	0.556	143	0.0760	0.0124
Former Permit IL 0032182 Limits	6.5 – 9	1,000	Report	1.4	500	15	0.04

Analytical Results for Samples Collected Quarterly at the Duck Pond, Lower Swale, Upper Swale, Clear Water Pond (mg/L)

Sample Collection Date	pH (S.U.)	Total Dissolved Solids (mg/L)	Total Phosphorus (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Ammonia-Nitrogen (mg/L)
Duck Pond						
2/27/14	No sample collected, pond frozen					
5/19/14	7.80	498	0.170	0.651	98.4	0.142
Lower Swale						
2/27/14	7.28	3100	63.4	3.51	1960	40.8
5/19/14	7.30	2420	63.7	3.60	1260	38.5
Upper Swale						
2/27/14	7.30	3730	64.3	4.14	2350	72.0
5/19/14	7.35	3350	61.2	3.89	2050	49.4
Clear Water Pond						
2/27/14	No sample collected, pond frozen					
5/19/14	7.33	1830	40.1	3.89	1070	20.8

Attachment 2
Summary of Sampling Results
DePue Interim Water Treatment Plant

Interim Consent Order Report
May, 2014
Summary Of Analytical Results
DePue Interim Water Treatment Plant

Influent Data (mg/L)

Date	TSS	Cadmium	Copper	Iron	Manganese	Nickel	Lead	Zinc	pH- std units	Lift Station Flow (gpm)
01/07/14	50	1.8	50	2.0	53	1.1	<1.0	1,000	5.88	10
02/04/14	31	1.4	51	4.1	46	<1.0	<1.0	930	5.98	10
03/04/14	140	1.2	47	1.6	45	1.0	<1.0	870	6.01	54
04/01/14	33	1.6	43	9.5	39	1.0	<1.0	870	5.86	36
05/06/14	160	1.6	49	4.1	40	1.5	1.1	820	6.01	32

YTD Average	83	1.5	48	4.3	45	1.1	1.0	898	5.95	28
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Notes:

1. Values preceded by "<" were not detected greater than the laboratory method detection limit shown.

Interim Consent Order Report
May, 2014
Summary Of Analytical Results
DePue Interim Water Treatment Plant

Effluent Data (mg/L)

Date	TSS	Cadmium	Copper	Iron	Manganese	Nickel	Lead	Zinc	pH - std units
01/07/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.28	7.44
01/14/14	5.6	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.28	7.00
01/21/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.18	7.04
01/28/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.29	7.00
02/04/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.39	7.20
02/11/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.28	6.96
02/18/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.17	7.00
02/25/14	<4.0	<0.02	<0.10	<0.10	0.12	<0.10	<0.10	0.23	7.04
03/04/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.22	7.22
03/11/14	<4.0	<0.02	<0.10	<0.10	0.19	<0.10	<0.10	0.57	7.04
03/18/14	<4.0	<0.02	<0.10	<0.10	0.94	<0.10	<0.10	1.10	7.00
03/25/14	<4.0	<0.02	<0.10	<0.10	0.11	<0.10	<0.10	0.29	7.00
04/01/14	<4.0	<0.02	<0.10	<0.10	0.12	<0.10	<0.10	0.32	7.04
04/08/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.20	6.98
04/15/14	<4.0	<0.02	<0.10	<0.10	0.10	<0.10	<0.10	0.32	7.14
04/22/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.33	6.96
04/29/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.26	7.00
05/06/14	10.0	<0.02	<0.10	<0.10	0.10	<0.10	<0.10	0.59	7.44
05/13/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.29	6.88
05/21/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.53	7.00
05/28/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.22	7.42
YTD Avg	4.4	0.02	0.10	0.10	0.15	0.10	0.10	0.35	7.09
May Avg	5.5	0.02	0.1	0.1	0.1	0.1	0.1	0.41	7.19
May Max	10.0	0.02	0.1	0.1	0.1	0.1	0.1	0.59	7.44

Discharge Limits (mg/l)

	TSS	Cadmium	Copper	Iron	Maganese	Nickel	Lead	Zinc	pH-std units
Daily Max	30	0.3	1	4	2	2	0.4	2	6-9
Monthly Avg	15	0.15	0.5	2	1	1	0.2	1	6-9

Notes:

1. Values preceded by "<" were not detected greater than the laboratory method detection limit shown.